

REMARKS

I. Introduction

Claims 11, 13, 14 and 18 to 23 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 11, 13, and 20 to 23 Under 35 U.S.C. § 103(a)

Claims 11, 13, and 20 to 23 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 5,841,611 ("Sakakima et al.") and U.S. Patent No. 6,144,524 ("Haratani et al."). It is respectfully submitted that the combination of Sakakima et al. and Haratani et al. does not render these claims unpatentable for at least the following reasons.

Claim 11 relates to a magneto-resistive layer system, and has been amended to recite that the magneto-resistive layer system **consists of** a single magneto-resistive layer stack and a single layer arrangement. Thus, according to the present claim, the magneto-resistive layer system **consists of** a single magneto-resistive layer and a single layer arrangement, wherein the magneto-resistive layer stack consists of two magnetic layers separated by one non-magnetic layer, and the layer arrangement consists of two magnetic layers separated by one non-magnetic layer. Support for this amendment may be found, for example, in Figure 1.

Sakakima et al. purports to describe a magnetoresistance effect device that includes a substrate and a multilayer structure formed on the substrate. According to Sakakima et al., the multilayer structure includes a hard magnetic film, a soft magnetic film, and a non-magnetic metal film for separating the hard magnetic film from the soft magnetic film.

The Final Office Action, on pages 2 to 4, refers to Figures 2B and 24 of Sakakima et al. as allegedly disclosing the magnetoresistive layer stack and the layer arrangement of the present claim. However, both of these Figures provide more layers than that of the present claim. For example, the "layer arrangement" of Figure 24 includes a total of four magnetic layers (101, 101, 103, 103) and three nonmagnetic layers (102, 102, 102), and thus, is different from the layer arrangement of the present invention which consists of a **single** layer arrangement that consists of three layers.

Further, the present claim consists of a single magnetoresistive layer stack that consists of one non-magnetic layer between the first and second magnetic layers. In contrast, the magnetoresistive layer stack of Figure 24 consists of a soft magnetic film (103), a nonmagnetic film (102), a second soft magnetic film (103) and a second nonmagnetic film (102). Thus, the magnetoresistive layer stack of Sakakima et al. has an additional non-magnetic layer beneath the lower magnetic layer. This layer is not contained in the stack of the present invention.

Furthermore, in Figure 2B of Sakakima et al., the Final Office Action considers the magnetoresistive layer stack to consist of the soft magnetic film (3), nonmagnetic metal film (2) and magnetic film (3' at the bottom of the Figure), and the layer arrangement to consist of the hard magnetic film (1) ("first magnetic layer"), nonmagnetic metal film (2) ("non-magnetic intermediate layer") and soft magnetic film (3) ("second magnetic layer") at the bottom of the Figure. However, as is apparent from Figure 2B, the magneto-resistive layer system consists of more than a single magneto-resistive layer stack and a single layer arrangement.

Haratani et al. describes a spin valve magneto-resistance device (10) including a nonmagnetic layer (16) sandwiched by free and pinned magnetic layers (12, 18), but does not cure the deficiencies of Sakakima et al. with respect to the above-mentioned features of claim 11. Accordingly, it is respectfully submitted that the combination of Sakakima et al. and Haratani et al. does not render unpatentable claim 11 and its dependent claims 20 and 21 for at least these reasons.

Claims 13 and 22 include features analogous to claim 11 and have been amended in a manner analogous to claim 11. Accordingly, it is respectfully submitted that the combination of Sakakima et al. and Haratani et al. does not render unpatentable claim 13, or claim 22 and its dependent claim 23 for at least the reasons set forth above.

In view of the foregoing, withdrawal of this rejection is respectfully requested

III. Rejection of Claims 14, 18 and 19 Under 35 U.S.C. § 103(a)

Claims 14, 18 and 19 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Sakakima et al., Haratani et al. and U.S. Patent No. 6,611,034 ("Den"). It is respectfully submitted that the combination of

Sakakima et al., Haratani et al. and Den does not render these claims unpatentable for at least the following reasons.

Claims 14, 18 and 19 ultimately depend from claim 11 and therefore include all of the features of claim 11. In addition, as set forth in more detail above, the combination of Sakakima et al. and Haratani et al. does not disclose, or even suggest, all of the features of claim 11. Furthermore, Den describes a magnetic device and a solid-state magnetic memory and shows cross-sectional views of a laminated magnetic material in the magnetic device. However, Den is not asserted to disclose or suggest, nor does Den disclose or suggest, any of the features of claim 11 not disclosed or suggested by the combination of Sakakima et al. and Haratani et al. Accordingly, it is respectfully submitted that the combination of Sakakima et al., Haratani et al. and Den does not render unpatentable claims 14, 18 and 19, which depend from claim 11.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

IV. Conclusion

In light of the foregoing, Applicants respectfully submit that all pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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